



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

OCTOBER 6.

The President, Dr. RUSCHENBERGER, in the chair.

Twenty-nine members present.

*Wheat and Chess*.—Mr. THOMAS MEEHAN introduced a subject which he said had never before, to his knowledge, been brought directly to the attention of a scientific body—the popular belief that wheat will turn to chess. The scientific world might well be pardoned for deriding such an idea, for if so distinct a genus as *Triticum* can be found to produce a *Bromus*, the most exaggerated notion of the “leaping” power of nature must be enlarged in considering theories of evolution. Yet he might say he had seen many popular impressions, derided by men of science, prove true. When a boy his agricultural friends insisted that the same toad which would deposit its eggs in water when convenient, would bring forth its young alive when deprived of the water privilege. He had proved the fact by keeping toads in breeding condition in confinement, and counting the toadlets when certainly not more than a few days old. The idea was once derided by intelligent men, but he believed most zoologists now admit that the common toad is oviparous or viviparous according to circumstances. In like manner in his youth he saw five young snakes, one after another, enter the mouth of the parent when alarmed. This was a universal belief of country people; yet only last year, on overwhelming evidence before the American Association, was it admitted as scientific truth. Again, during the past year we had seen how a popular belief in regard to an apparent elongation of tree trunks had proved to be true, though the popular reasoning was wrong. We now know that trees may sometimes be lifted from year to year by the gradual thickening of roots growing over a rocky base, so that a side branch, which in a young tree is opposite to a mark, may, in time, be as much as a foot above it, as popular observation contends it sometimes will. With these things in mind he had held himself open to give even some trouble to get reputed facts with reference to this question of chess. He now exhibited one of several specimens sent him by Mr. Levette of the Indiana Geological Survey, and proceeded to point out that there could be no mistake about the branch from the wheat ear being *Bromus secalinus*, the common chess, so far as the palea and glumes were concerned. In the flowers he had dissected he found no perfect grain to compare with wheat. In instances previously recorded there seems never to have been any dispute about the appearance from the wheat head being the real *Bromus*. But it had been contended that in these cases an examination had

shown an accidental union of two culms, one from each plant, and which, in some way, had formed an apparent union one with another. This appeared not to be the case in the present specimen. In the wheat ear the small clusters of flowers inclosing the ultimate grain, came out at each bend of the zigzag rachis. The spike of chess appeared to come out at one of these bends, the lowermost, taking, in fact, the place of one of these small clusters. It was not an accidental union of two distinct parts, but apparently a substitution of one part for another. Again the *Bromus secalinus* rarely gets as tall as wheat, especially so tall as this strong looking wheat head had evidently grown. There was, he said, another remarkable fact connected with the popular reports. Many other grasses grow with wheat as well as *Bromus secalinus*, the common chess or cheat. It was apparently as easy for any of these to become accidentally conjoined with wheat as this, but no case is brought forward. There was enough in appearance, he thought, that deserved further investigation.

On Mr. Meehan's motion, the specimen was referred to the Biological and Microscopical Section for examination.

*New Growth of Plants.*—Mr. JOHN H. REDFIELD called the attention of the Academy to some curious facts recently observed by Mr. C. F. Parker. On some low marshy ground near the Delaware River below this city, was deposited in the spring a large amount of mud dredged from the channel of the river. The mud was spread to the depth of several feet over a space of more than an acre in extent, for the purpose of raising the level. Later in the season over this whole area sprung up a growth composed almost exclusively of two plants, viz., *Polygonum orientale*, an East Indian species (which occasionally occurs on waste ground), and *Cleome pungens*, a West India species of less frequent occurrence. The former plant constituted the mass of the growth, though there may have been more than one hundred plants of the *Cleome* scattered among the growth. One or two specimens of *Quamoclit coccinea*, also a naturalized species, were likewise noticed. Mr. Parker had also previously observed a similar case upon Smith's Island, and also in two localities in Camden, where channel mud had been thus deposited. Mr. Redfield thought it an interesting inquiry as to whence the seeds of these plants originated, and how they had survived their long burial in the river mud.

Dr. Leidy thought that as the vicinity had long been used as a place for the deposit of ballast from ships, the seeds might have laid upon the ground previously, and have been quickened by the deposit of the mud.

Mr. Meehan referred to some recent discoveries as to the effect of oxygen in the germination of seeds, and thought that perhaps the seeds of these plants, protected from air while buried under

water, might, under exposure to the air, germinate. He referred to other cases of the springing up of new plants after the deposit of fresh earth, and suggested a mode of testing the origin of the seeds.

Dr. Carson and Mr. Aubrey H. Smith called attention to the great change which, during late years, had occurred in the vegetation of the neck below the city.

*On Asplenium ebenoides.*—Mr. Redfield then alluded to the fern known as *Asplenium ebenoides*, described some years ago by Mr. Scott, from a few plants found on the rocky banks of the Schuylkill above Philadelphia. Most of our botanists have doubted the validity of the species, and have supposed it to be an abnormal or hybrid form originating from *Camptosorus rhizophyllus* (Walking Fern), and *Asplenium ebeneum*, both of which species occur abundantly at the locality. Recently a few plants of the same form have been found near Havana, Alabama, by Miss Tutwiler, and in precisely the same suspicious company. Her account may be found in the *Bulletin* of the Torrey Club for May, 1873. Recently Mr. A. H. Curtiss, of Liberty, Va., has received from Alabama a frond of this fern, *rooting at the apex*, precisely as the walking fern does. Mr. Redfield thought this fact tended to confirm the doubts already entertained upon the validity of the species.

*Notice of some Rhizopods.*—Prof. LEIDY remarked that since he had made a communication on *Deinamæba mirabilis* he had had the opportunity of examining a number of additional specimens. All of them appeared to be variegated with twin spots of green, which he found to be due to the scattered joints of two species of desmids of the genus *Didymoprium*, swallowed as food. He had observed the animal swallow a considerable portion of a filament of *Didymoprium Grevillii*. In another instance he had seen an individual eject upwards of fifty joints of *Didymoprium Brebissonii*, from three different portions of the body simultaneously. Another peculiarity he had observed in the animal which had previously escaped his notice. The body appears to be surrounded or enclosed in what might be called an atmosphere of minute spicules, which can be seen as a circle a short distance beyond the outline of the body.

Prof. Leidy then presented drawings and descriptions of a number of Diffflugians which he supposed to be new. They were mostly found in a pond in Absecom Creek, New Jersey, and in the sphagnum on the border of the pond. Most of the same species were likewise found in a sphagnum swamp of Longacoming, and in the sphagnum on the border of Lake Hattacawanna, New Jersey.

**DIFFLUGIA VAS.** Test composed of angular quartz particles, generally coarse, shape pyriform, with the neck constricted where it joins the body; fundus obtuse; mouth large, circular. Ento-

sarc bright green from the abundance of chlorophyl granules. Length of test  $\frac{2}{3}$  mm.; neck one-fourth to one-third the length of the test. Abundant in Absecom Pond, New Jersey.

**DIFFLUGIA OLLA.** Test composed usually of angular quartz particles, and occasionally of diatome shells; form pot-like, with a spheroidal body, a contracted neck, a large circular mouth, a reflected lip, and obtuse, divergent spines projecting from the fundus. Entosarc colorless. Length of test  $\frac{1}{2}$  mm. Abundantly found with the preceding. The form is intermediate to *Diffugia corona* and *D. lageniformis* of Wallich.

**CATHARIA.** Diffugians with a membranous, structureless test without adherent particles of foreign matter.

**DIFFLUGIA (CATHARIA) PAPILIO.**—Test pale yellow, transparent, compressed pyriform, width less than half the breadth, border acute; mouth transversely oval. Entosarc with many chlorophyl globules, and attached by many bands to the inner surface of the test. Pseudopods digitate. Length of test 0.112 mm., breadth 0.072 mm., width 0.032 mm. The living animal, from its varied colors, is very handsome. Abundant in the sphagnum of Absecom, of Longacoming, and of Lake Hattacawanna, New Jersey.

**DIFFLUGIA (CATHARIA) ELEGANS.**—Test pale brown, compressed bottle-shaped, width about one-half the breadth, border obtuse, surface with shallow conical depressions; mouth transversely oval. Entosarc colorless, or yellowish from the food balls. Length  $\frac{1}{10}$  mm.; breadth  $\frac{1}{35}$ ; width  $\frac{1}{50}$  mm. Very abundant among the sphagnum of Absecom, of Longacoming, and of Lake Hattacawanna, New Jersey.

**NEBELA.**—Diffugians with an areolated test.

**DIFFLUGIA (NEBELA) ANSATA.** Test compressed pyriform, width about two-thirds the breadth, laterally obtuse and furnished with a pair of handle-like processes projecting at the base of the neck, and extending nearly parallel with and about one-third the length of the body, colorless, transparent; areolæ appearing circular or hexagonal; mouth transversely oval. Entosarc colorless, or yellowish from the food balls. Length 0.22 mm., breadth 0.1 mm., width 0.072 mm.; length of handles 0.04 mm. A rare form among the sphagnum of Absecom, having only found it twice. Remarkable for the large hollow handle-like processes of the test.

**DIFFLUGIA (NEBELA) EQUI-CALCEUS.** Test compressed pyriform, the width about one-half the breadth, colorless, transparent; circularly or hexagonally areolated, laterally acute and with the body carinated. Carina deep and thick, and seen in the broad view of the test as a horse-shoe like production with the extremities free and projecting into the interior of the test towards the mouth. Entosarc colorless, or yellowish from the contained food-balls. Length  $\frac{1}{4}$  mm., breadth 0.14 mm., width 0.072 mm. Also rare, and found in the same locality with the preceding, with which it is equally remarkable, from the existence of the singular horse-

shoe-like production. It resembles the *Diffugia carinata* of Archer, but this appears to be devoid of the horse-shoe.

**DIFFUGIA (NEBELA) SPHAGNI.**—Test pale yellowish, compressed ovoid, width little more than half the breadth, borders obtuse, surface reticular; mouth large, transversely elliptical and with acute commissures. Entosarc bright green, from the multitude of chlorophyl grains; pseudopods numerous, digitate. Length  $\frac{1}{10}$  mm.; breadth  $\frac{1}{12}$  mm.; width  $\frac{1}{25}$  mm. Very abundant among the sphagnum of Absecon. In some specimens the border of the fundus of the test is loaded with quartz particles. Frequently the animal is observed in a passive state with the mouth of the test closed by an epiphragm, and the sarcode appears as a discoid ball  $\frac{1}{16}$  mm. broad, and  $\frac{1}{8}$  mm. thick.

**DIFFUGIA (NEBELA) NUMATA.** Test colorless, broadly compressed pyriform, about half the width of the breadth, borders subacute; surface covered with oval or circular disks, resembling in appearance blood disks; mouth transversely oval. Entosarc transparent, colorless or yellowish from the food contents, attached by long bands to the inner periphery of the test; pseudopods coarse digitate. Length  $\frac{1}{7}$  mm., breadth  $\frac{1}{10}$ , width,  $\frac{1}{20}$  mm. Abundant in the sphagnum of Absecon, and Lake Hattacawanna, New Jersey. A beautiful form. The discoid areolar structure is very variable, and is frequently mingled with more or less bodies of linear form.

**DIFFUGIA (NEBELA) BARBATA.** Test colorless, circularly areolated, slightly compressed bottle-shaped; neck long, body ovoid, mouth oval; surface of test everywhere finely hirsute. Entosarc colorless, or yellowish from the food contents. Length  $\frac{1}{8}$  mm.; breadth of body  $\frac{1}{11}$  mm., of neck  $\frac{1}{10}$  mm.; width of body  $\frac{1}{25}$  mm. Rare in the sphagnum of Absecon, New Jersey.

**DIFFUGIA (NEBELA) FLABELLULUM.** Test colorless, compressed spheroidal, broader than long and width less than half the breadth; neck slight or nearly obsolete; surface of test with round, oval and bacilliform areolæ. Entosarc colorless, or centrally yellowish from food balls. Length of test  $\frac{1}{2}$  mm.; breadth  $\frac{1}{11}$  mm.; width  $\frac{1}{25}$  mm. Abundant in the sphagnum of Longcoming swamp, New Jersey.

The business of the adjourned meeting of Sept. 29th having been resumed, Charles Dutilh, George Washington Smith, J. E. Mitchell, Jno. Leisenring, Charles Parrish, Charles Baeder, William Adamson, Charles B. Baeder, Wm. B. Adamson, Charles W. Poultney, Karl Seiler, M.D., and Mrs. Amelia D. Hockley were elected members.

H. W. Hollenbush, of Reading, Pa., Prof. Peter MacOwen, of Somerset, East South Africa, J. Fayrer, M.D., of Calcutta, and A. L. Siler, of Osmer, near Glendale, Utah, were elected Correspondents.